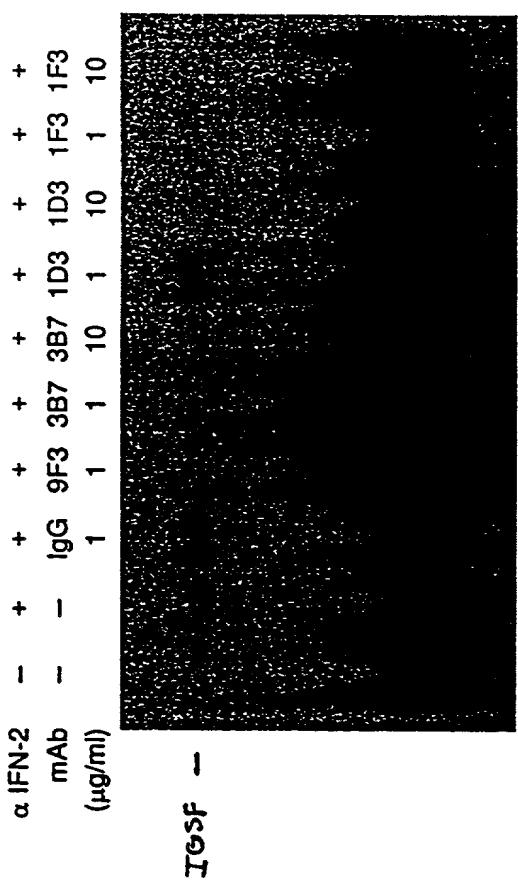


Figure 1

Figure 2



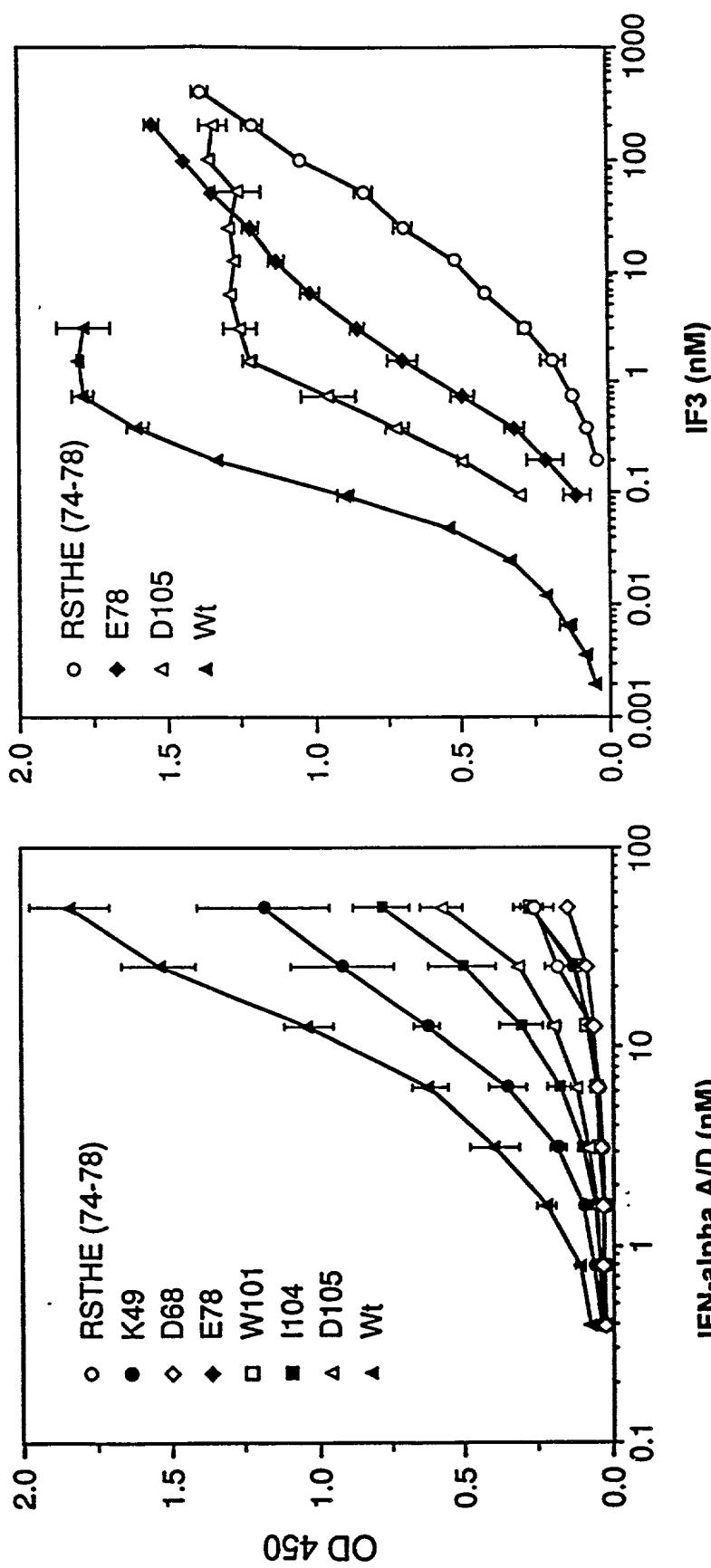


Figure 3A

Figure 3B

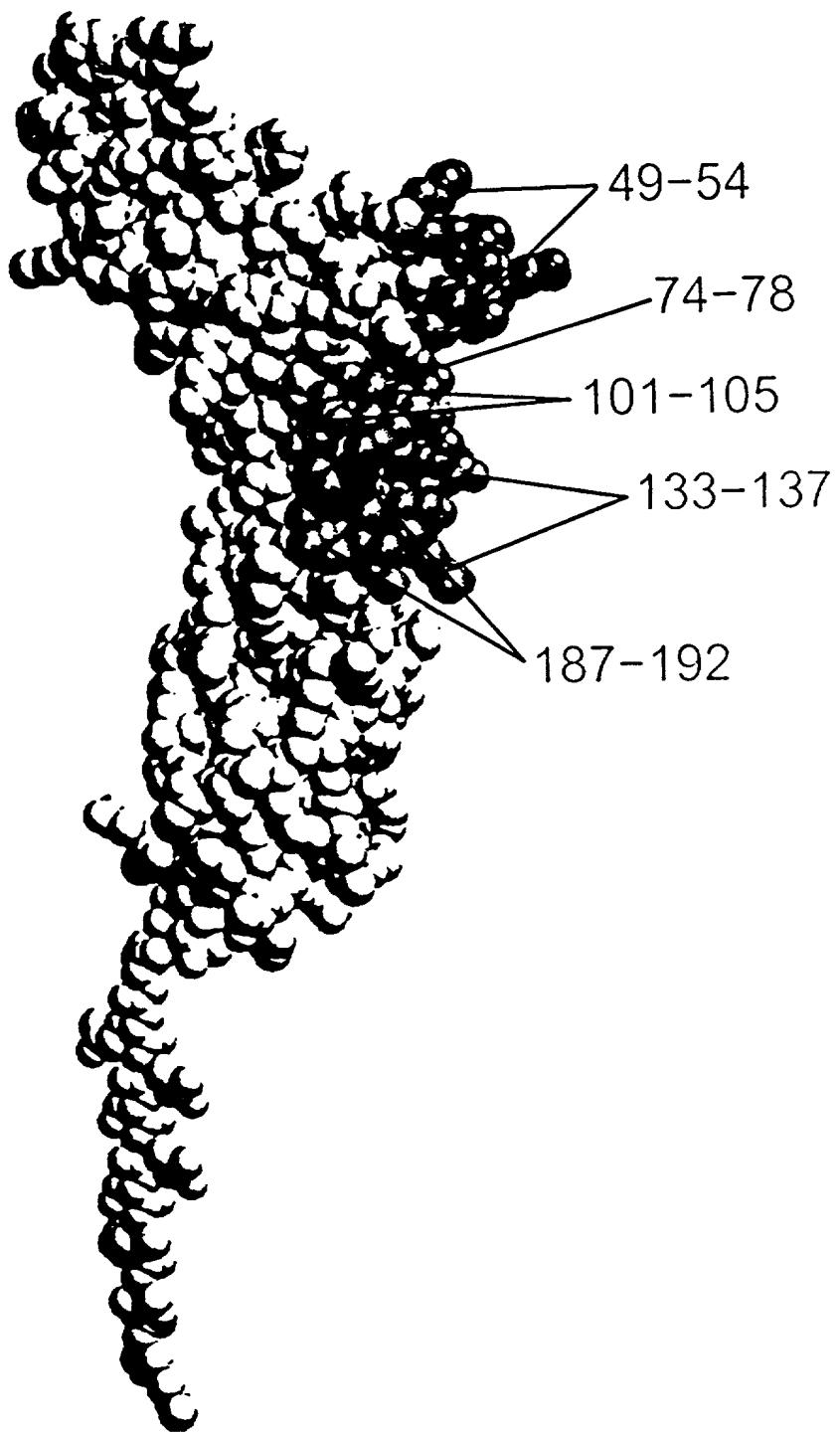


Figure 4

1 GAATTCCCAA AAATAGCCAA GATGCTTTC AGCCAGAAT CCTCTCTCGT CAGATCAGT ATTGGCTTC TCATGGGTGA TATCAGGCCCTA TGTTGGTA
CTTAGGATT TTATCGTT CTAGAAAAC TCGTCTTAC GGAAGTAGCA GTCTAGTGA TTAAACCAAG AGTACCAT ATAGTGGAG CACAAACC
Ile

human alpha beta receptor

101 TTTCATATGAA TTGGCCTGAT TACACAGATG AATCTGCAC TTTCAGATA TCATTGGGAA ATTCCGGTC CATCTTACA TGGGAATTAA AAAACCACTC
AAAGTATACT AAGCGGACTA ATGTGCTAC TTAGAACGTT AAAGTTCTAT AGTAACGTT TAAAGGCCAG GTAGAATAGT ACCCTTAATT TTTGGTGAG
2 Sertyras pSerProasp TyrThrAspG IuserCystH rPhelysile SerLeuArgA snPheArgSe rIleLeuser TrpGluLeul ysAsnHisSer

201 CATGGTACCA ACTCACTATA CATTGCTGTA TACAATCATG AGTAACCCAG AAGATTGAA GGTGGTTAAG AACTGTGCAA ATACACAAG ATCATTTGT
GTAACATGTT TGAGTGTAT GTAACGACAT ATGTTAGTAC TCATTGGTC TTCTAAACTT CCACCAATTG TGACACGTT TAGTGTGTC TAGTAAACA
35 IleValPro ThrHistYrt hrLeuleuryr rThrIleMet SerLysProG LuAspLysProG IuAspLeuLy sValVallys AsnCysAlaA snThrThrRar gSerPheCys

301 GACCTCACAG ATGAGTGGAG AAGCACACAC GAGGCCTATG TCACCGCTCCT AGAAGGATTG AGGGGGAAACA CAACGGTTGTT CAGTGCTCA CACAAATTCT
CTGGAGTGTG TACTCACCTC TTCTGTGCTG CTCCGGATAC AGTGGCAGGA TCCTCCTAAG TCACCGCTTGT GTGCAACAA GTCAACGAGT GTGTTAAAGA
68 AspLeuThra spGluLysPar gserthrhis GluAlaTyR alThrValle uGluLysPhe SerGlyAsnT hrThrLeuph eSerCysSer HisAsnPheTrp

401 GGCTGGCCAT AGACATGTCT TTGAAACAC CAGAGTTGA GATTGTTGGT TTACCAACC ACATTAATGT GATGGTGAAGA TTTCATCTA TTGTTGAGGA
CCGACGGTA TCTGTACAGA AAACCTGGTG GTCTCAAACCT CTAACAAACCA AAATGGTGG TGTAATTACA CTACCACTT AAAGGTAGAT AACAACTCT
102 LeuAlaIleAspMetSer PheGluProP roGluPheGlu uIleValGly PheThrAsnH isIleAsnVa 1MetVallys PheProSerI levalGluGlu

501 AGAATTACAG TTGTATTAT CTCTCGTCTG TGAAGACAG TCAGAGGGAA TTGTTAAGAA GCATAAACCC GAAATAAAAG GAAACATGAG TGGAAATTTC
TCTTAATGTC AAACAAATA GAGAGGAGTA ACTCTTGTC AGTCTCCTT ACAATTCTT CGTATGGG CTTTATTTTC CTRGTACTC ACCTTTAAAG
135 GluLeuGln PheAspLeuLysProG IuAspLysProG roGluLysProG uIleVallysPhe ThrAsnH isIleAsnVa 1MetVallys PheProSerI levalGluGlu

601 ACCTATATCAA TTGACAAGTT AATTCCAAAC AGGAACACTACT GTGTATCTGT TTATTTAGAG CACAGTGTG AGCAAGGAGT AATAAGTCT
TGGATATAGT AACTGTCAA TTAAAGTTG TGCTTGATGA CACATAGACA AATAAAATCTC GTGTCACTAC TGTTCTGTCA TTATTCAGA
168 ThirtyTrileIleAspLysProAsn ThrAsnTyrc yValserVa 1TyrlleuGlu HisSerAspG luGlnAlaVa lIleLeuser ProLeuLysCys

701 GCACCCCTCT TCCACCTGGC CAGGAATCAG AATCAGCAGA ATCTGCGAC AAAACTCACA CATGCCACCATG CCGAACTCC TGGGGGACCT
CGTGGGAGGA AGGTGGACCG GTCCTAGTC TTAGTGTCT TAGACGGCTG TTTGAGTGT GTACGGTGTG CACGGGTCTG GGACTTGAGG ACCCCCCCTGG
202 ThrLeule uproProGly GluGluSerG IuserAlaAsp LysThrHist hrCysProPr oCysProAla ProGluLeul euGlyGlyPro
IgG1

801 GTCAAGTCTTC CTCTCCCCC CAAACCAA GGACACCCCTC ATGATCTCCC GGACCCCTGAA GGTCACATGC GTGGTGGTGG ACGTGAGCCA CGAAGACCC
CAGTCAGAAG GAGAAGGGGG GTTTGGCTT CCTGTGGAG TACTAGGGG CCAGGGGACT CCAGTGTACG CACCAACC TGCACTCGGT GCTTCTGGGA
235 SerValPhe LeuPheProP roLysProLysProGlu ValValVala spValserHi spValserHi ValValVala ValThrProGlu ValThrProGlu

Figure 5A

901 GAGGTCAAGT TCAAATGGGTA CGTGGACGGC GTGGGGCTGC AATAATGCCAA GACAAGGCCG CGGGAGGAGC AGTACAACAG CACGTACCGA GTGGTACGG
 268 GluvallysP heasnrrtpy rvalsaspGly Valgluvalh isasnalaI sthrlyspro ArgGluglug IntyrAsnse rthrrtyrarg Valvalserval
 CTCAGGTTCA AGTTGACCAT GCACCTGCCG CACCTCCACG TATTACGGT CTGTTTCCGC GGCAGCTGGCA GGCAGCTGGCT TCATGTTGTC GTGCATGGCT CACCACTGGC
 1001 TCCTCACCGT CCTGACCCAG GACTGGCTGA ATGCGAACGA GTACAAGTGC AAGGTCTCCA ACAAAAGCCCT CCCAGCCCCC ATCGAGAAAA CCATCTCCAA
 AGCACTGGCA GGACGTCGTC TGTACCGACT TACCGTCTCT CATGGTACG TTCCAGAGGT TGTTTCGGCA GGGTGGGG TAGCTCTTT GGTAGAGGTT
 302 Leuthrva lleuhisgln Aspttpleua singlyLysG1 utyrlsycs Lysvalsera snlysalaI uproAlapro IlegluLyst hrileSerlys
 1101 AGCCAAAGGG CAGCCCCGAG AACCAACAGG GTACACCCCTG CCCCACATCCC GGGAAAGAGAT GACCAAGAAC CAGGTCAAGCC TGACCTGCCT GGTCAAGGGC
 TCGGTTTCCC GTCGGGCTC TGGGTCTCA CATGGGAC GGGGTAGGG CCCCTCTCTA CTGGTCTTG GTGGTCTTG ACTGGACGGA CCAGTTTCGG
 335 AlaLysGly GlnproArgg Iuproglvna Ityrthrleu ProProsera rgGluglume tthrlysbnn Glnvalserl euthrCysle uvallysGly
 1201 TTCTATCCA GCGACATCGC CGTGGAGTGG GAGGGAATG GGCAGCCGGA GAGAACATC AAGACCACGC CTCCCCTGCT GGAACCTCCGC GGCTCCCTCT
 AGATAGGGT CGTCGGCTC CGTCGGCTAC GCACCTCACCG CTCCTCGTTAC CGTCCGGCT CTGTTGATG TTCTGGTGC GAGGGACCGA CCTGGGGCTG
 368 Phetyrpros erAspIleI avalglutrp GluserAsgn lyglnProG1 uasnAsnTy Valpheserc ysservalme thiisgluala LeuhisAsnH istYrrhrgln
 1301 TCCTCTACAG CAAGCTCACC GCGGACAAGA GCAGGTGGCA GCAGGGAAAC GTCTTCTCAT GCTCCGGTGT GCATGAGGGT CTGACACAACC ACTACACGCCA
 AGGAGATGTC GTTCGAGTGG CACCTGTCT CTTCTGGTCT CGTCCACCGT CGTCCCTTG CAGAAGAGTA CGAGGACTA CGTACTCCGA GACGTTGGT TGATGTTGCT
 402 Leutyrse rLysLeuthr ValasplysS erArgTrpG1 nLnglyAsn Valpheserc ysservalme thiisgluala LeuhisAsnH istYrrhrgln
 1401 GAAGAGCCCTC TCCCTGTCTC CGGGTAAATG AGTGGACGG CCCTTAGAGTC GACCTGGCAGA AGCTTAGAAC CGAGGGCCG CCATGGCCCA ACTTGGTTAT
 CTTCTGGAG AGGGACAGAG GCCCCATTAC TCACGCTGCC GGGATCTCAG CTGGACGTTCTG TCGAAATCTG GCTCCGGCT GGTACCCGGGT TGAACAAATA
 435 LysserLeu SerLeuserp roglyLysP * (SEQ ID NO. 26)
 sv40 early
 poly A

1501 TGCAGCTTAT AATGGTTACA AATAAGCAA TAGCATCACA AATTTCACAA ATAAAGCAT TTATTCTGTT ATGTTAGTGT TTAAAAGTGT TATTTCGTA AAAAGTGAC GTAAGATCAA CACCAACAG
 ACgtcGAAATA TTACCAATGT
 1601 AATGGTATCTT ATCATGTCTG GATGGTCTGG GATTTAATTG GGGCGAGCAG CATTGGCTGA AATAACCTCT GAAAGAGGAA CTTGGTTAGG TACCTCTGAG
 TTACATGAA TAGTACAGAC CTAGCTAGCC CTTAATTAAG CCGCGTCGTG GTACCGGACT TTATGGAGA CTTCTCTCCTT GAACCAATCC ATGGAAAGACT
 sv40 origin

1701 GGGGGAAAGA ACCAGCTGTG GAATGTGTGT CAGTTAGGGT GTGGAAAAGTC CCAGGCTTC CCAGGAGGCA GAGTATGCA AAGCATGGCAT CTCAATTAGT
 CGCCCTTTCT TGGTGTGACAC CTTACACACA GTCAATCCA CACCTTCA GGTGTCGGAG GGTGTCGGCT CTTCTACGT TTCGTACGT GAGTTAACTCA
 1801 CAGCAACCGAG GTGTGGAAAG TCCCCAGGGCT CCCCAGGAGG CAGAAGTATG CAAGGCTATGC ATCTCAARTA GTCAAGAACC ATAGTCCCGC CCCTAACTCC
 GTCGTTGGTC CACACCTTC AGGGGTCCGA GGGGTCCGA GTCTTCATAC GTTCGTACG TAGAGTTAAT CAGTCGTGG TATCAGGGCG GGGATTGAGG

Figure 5B

Figure 5C

3101 TATTTGTTA TTTTCTAA TACATTCAA TATGGTATCCG CTCATGAGAC AATAACCCTG ATAATAGCTT CATAATATT GAAAAGGAA GAGTATGAGT
 ATAAACAAAT AAAAGATT ATGTAAGTT ATACATAGGC GAGTACTCG TTATTTGGAC

 3201 ATTCAAACAT TCCGTGTCGC CCTTATTCCC TTGTTTGCGG CATTGCGCT TCCTGCCG GCTCACCCAG AAACGCTGGT GAAAGTAAA GATGCTGAAG
 TAAGTGTAA AGGCACAGGG GAAATAAGGC GTAAAAGGC AGGACAAAAA CGAGTGGTC TTGGCAGCA CTTTCATTG CTACGACTC

 3301 ATCAGTGGG TGCACGAGTG GGTTACATCG AACTGGATCT CAACAGGGT AAGATCCTTG AGAGTTTCG CCCGAAAGAA CGTTTCCAA TGATGAGCAC
 TGTCAACCC ACGTGCTCAC CAAATGTTAGA GTCAGCTTCA CGAGGAAACT CGTGGTGGCA TTCTAGGAAC TCTCAAAAGC GGGGCTTCTT GCAAAAGGTT ACTACTCGT

 3401 TTAAAGTT CTGCTATGTT GCGCGGTATT ATCCCGTGT GACGCCGGC AAGAGCAACT CGGTGCCGC ATACACTATT CTCAGAATGA CTGGTTGAG
 AAATTCAAA GAGGATACAC CGGCCATTA TAGGGACTA CTGCGGCCG TTCTCGTGA GCCAGGGCG TATGTGATAA GAGTCTACT GAACCAACTC

 3501 TACTCACCAG TCACAGAAA GCATCTTACG GATGGCATGA CAGTAAGAGA ATTATGGAGT GCTGCCATAA CGATGAGTA TAACACTGCG GCCAACCTAC
 ATGAGTGGTC AGTGTCTTT CTACCGTACT GTCAATTCTCT TAATAGTCA CGACGGTATT GGTACTCACT ATTGTGACGC CGGTGAAATG

 3601 TTCTGACAAC GATCGGAGGA CGGAAGGGC TAACCGCTT TTGTCACAAAC ATGGGGGATC ATGTAACCTG CCCTGATCG TGGNAACCGG AGCTGAATGA
 ARGACTGTTG CTAGCCTCCT GGCTTCCTCG ATTGGGAAA AACGTTGTTG TACCCCCTAG TACATTGAGC GCAACTAGCA ACCCTGGCC TCGACTTACT

 3701 AGCCATACCA AACGAGCAGGC GTGACACCCAC GATGCCAGCA GCAATGCCAA CAACTGTTGCG CAAACATTAA ACTGGCGAAC TACTTACTCT AGCTTCCCGG
 TCGGTATGGT TTGCTGCTCG CACTGTGGT CTACGGTGT CGTTACCGTT GTGCAACGC GTTGTGATAAT TGACCGCTTG ATGAATGAGA TCGAAGGGCC

 3801 CAAACAATTAA TAGACTGGAT GGAGGGGGAT AAAGTTGCG GACCACTCT GCGCTCGGCC CTTCCGGCTG GCTGGTTTAT TGCTGATAAA TCTGGAGCCG
 GTTGTGTTAATT ATCTGACCTA CCTCCGGCTA TTTCACGTC CTTGGTGAAGA CGGGAGCCGG GAAGGGCAG CGACCAATA ACGACTATT AGACCTCGGC

 3901 GTGAGCGTGG GTCTCGGGT ATCATTCGAG CACTGGGGC AGATGGTAAG CCCCTCCGTA TCCTAGTTAT CTACACGACG GGGAGTCAGG CAACTATGGA
 CACTCGCACC CAGAGCGCCA TAGTAACGTC GTGACCCCGG TCTACCATTC GGGAGGGCAT AGCATCAATA GTGTGCTGC CCCTCAGTCC GTTGATACT

 4001 TGAAACGAAT AGACAGATCG CTGAGATAGG TGCCCTCACTG ATTAAGCATT GGTAACTGTC AGACCAAGTT TACTCATATA TACTTTAGAT TGATTTAAA
 ACTTGCTTA TCTGCTAGC GACTCTATCC ACGGAGTGC TAATTGCTAA CCATTGACAG TCTGGTTCAA ATGAGTATAT ATGAATCTA ACTAAATT

 4101 CTTCATTTT AATTAAAAG GATCTAGGTG AAGATCCTTT TTGATATCT CATGACCAA ATCCCTTAAC GTGAGTTTC GTTCCACTGA GCGTCAGACC
 GAGTAAAGAA TTAAATTTC CTAGATCCAC TTCTAGGAAA AACTATTAGA GTACTGGTT TAGGGAAATTG CACTCAAAG CAAGGTGACT CGCAGTCTGG

 4201 CCGTAGAAAA GATCAAAGGA TCTTCTTGTAG ATCCTTTTT TCTGGGGTA ATCTGCTGCT TGCAAAACAA AAAACCCACCG CTACCAAGCG
 GGCATCTTT CTAGTTCCCT AGAAGAAACTC TAGGAAAAAA AGACGGCAT TAGACGACGA ACGTTGTTT TTTGGTGGC GATGGTGGCC ACCAAACAA

 4301 GCGGGATCAA GAGGTACCAA CTCCTTTTCC GAAGGTAACG GGCTTCAGCA GAGGCAAGAT ACCAAATACT GTCCTCTCTAG TGTAGGCCAC
 GGGCCTAGTT CTCGATGGT GAGAAAAGG CTTCCATTGA CGAAGTGT CTCGGTCTA TGTTATGA CAGGAAGATC ACATCGGCAT CAATCCGGTG

Figure 5D

4401 CACTCAAGA ACTCTGTAGC ACCGCCCTACA TACCTGGCTC TGCTTAATGCT GTCGCGGATAA GTGGGTCTT ACCGGGTGG
 GTGAAGTTCT TGAGACATCG TGGGGATGT ATGGAGGG AGGATTAGGA CAAAGCAGG CGACGACGGT CACCGCTATT CAGCACAGAA TGGCCCAACC

 4501 ACTCAAGACG ATAGTTACCG GATAAGGGC AGGGGTGGG CTGAACCGGG GGTTCGTGCA CACAGCCAG CTTGGAGGA ACGACCTACA CGGAACCTGAG
 TGAGTTCTGC TATCAATGGC CTATCCGGG TCGCCAGGG CAAAGCACGT GTGTCGGTC GAACCTCGCT TGCTGGATGT GGCTTGACTC

 4601 ATACCTACAG CGTAGGATT GAGAAAGGC CACGCTTCCC GAAGGGAGAA AGGGGAGAG GTATCGGTA AGGGCAGG TCGAACAGG AGAGCGCAG
 TATGGATGTC GCACTCGAA CTCTTCCGG GTGGAAGGG CTTCCCTTT TCGCCTGTC CATGGCCAT TCGCCGTCCC AGCCCTGTCC TCTCGGTGC

 4701 AGGGAGCTTC CAGGGAAA CGCCTGGTAT CTTTATAGTC CTGTCGGTT TGACITGAGC GTGCAATT TTGTGCTCG TCAGGGGGC
 TCCCTCGAAG GTCCCCCTT GCGGACCATAA GAAATATCAG GACAGCCAA AGGGTGGAG ACTGAACTCG CAGCTAAAAA CACTACGAGC AGTCCCCCG

 4801 GGAGCCTATG GAAAACGCC AGCAACGGG CCTTTTACG GTTCTGGCC TTGCTGTC CAGTGTCTT CCTGCGTTT CCCCTGATT
 CCTGGATAC CTTTGGGG TCAGGAAATGC CAAGGACCCG AAAACGACCG GAAACGAGT GTACAAGAAA GGACGAAATA GGGGACTAAG

 4901 TGTGGATAAC CGTTTACCG CGCTTGAGTG AGCTGATACC GCTCGCGCA CGCGAACGAC GAGTCAGTGA GCGAGGAAGC GGAAGAGCGC
 ACACCTATG GCATAATGGC GGAAACTCAC TCGACTATGG CGAGCGCGT CGCTGGTGT CGCTCGTCACT CGCAGTCAC CGCTCCCTCG

 5001 CCAATACGCA AACGGCTCT CCCCCGGCGT TGGCCGATT ATTAAATCCAG CTGGCACGAC AGGTTCCCG ACTGAAAGC GGGOAGTGAN
 GGTATGCGT TrGGCGGAGA GGGCGGGCA ACCGGCTAAG TAATTAGGTC GACCGTGTG TCCAAGGGC TGACCTTTCG CCCGTCACTC

 5101 TTAATGTAG TTACTCACT CATTAGGCAC CCGGGCTTT ACACTTATG CTTCGGGCTC GTATGTTGTG TGGATTGTG AGGGATAAC AATTTCACAC
 ATTACACTC AATGGAGTGA GAAATCCGT GGGTCCGAAG TGTGAATAAC GAAGGGCGAG CATAACACAC ACCTTAACAC TCGCTTATTG TTAAAGTGTG

 5201 AGGAACAGC TATGACCATG ATTACGATT AATTCGAGCT CGCCCGACAT TGATTATTGA CTAGTATTAA ATAGTAATCA ATTACGGGGT CATTAGTCA
 TCCFTTGTGC ATACTGGTAC TAATGCTAA TTAGCTGA GCGGGCTGTA ACTAATAACT GATCATAAT TATCATTAGT TAATGCCCA GTAATCAA
 from pMLCMV beginning to HindIII, enhancers and promoter

5301 TAGCCCATAT ATGGAGTTC GCGTTACATA ACTTACGGTA AATGGCCGC CTGGCTGACC GCCCAACGAC CCCGCCAT TGACGTCAT AATGACGTAT
 ATCGGGTATA TACCTCAAGG CGCAATGTTAT TGAATGCCAT TTACCGGGG GACCGACTGG CGGGTGTGCTG GGGGGGGTA ACTGCGAGTT TTACTGCATA

 5401 GTTCCCATAG TAACGCCAAT AGGGACTTC CATTGACGTC AATGGGTGGA GTATTTACGG TAAACTGCC ACCTGGCAGT ACATCAAGTG TATCATATGC
 CAAGGGTATC ATTGGGTTA TCCCTGAAAG GTAACTGCAG TTACCCACCT CATAAATGCC ATTGACGGG TGAAACCGTCA ATAGTATAAC

 5501 CAAGTACGCC CCCTATTGAC GTCAATGACG GTAAATGGC CGCCTGGCAT TATGCCAGT ACATGACCTT ATGGGACTTT CCTACTTGGC AGTACATCTA
 GTTCATGGGG GGGATTAATCTGC CATTACCGG GCGGACCGTA ATACGGGTAA TACCCCTGGAA TGTACTGGAA GGATGAACCG TCATGTAGAT

Figure 5E

5601 CGTATTAGTC ATCGCTTAA CCATGGTGT GCGGTTTTGG CAGTACATCA ATGGGCCTTG ATAGGGGTTT GACTCACGGG GATTCCAAG TCTCCACCCC
GCATAATCAG TAGGGATTAAT GGTAACCACTA CGCCAAVACC GTCATGTAAGT TACCCGCAC TATGCCAA CTTGAGTGCCT CTAAGGTT AGAGGTGGGG

5701 ATTGACGTCA ATGGAGTT GTTTGGCAC CAAATCAAC GGGACTTCC AAAATGTCGT AACAACTCCG CCCCATGAC GCAAATGGGC GGTAGGGGTG
TAACTGCACT TACCTCAA CAAAACGGT GTTTAGTT CCCTGAAGG TTACAGCA TTGTTAGGGC GGGGTAACTG CGTTAACCG CCATCCGCAC

5801 TACGGTGGGA GGTCTATATA AGCAGAGCTC GTTGTGAA CGGTCAAGTC GCTGGGAGAC GCCATCCACG CTGTTTGAC CTCCATAGAA GACACGGGA
ATGCCACCTT CCAGATATAT TCGTCTGAG CAAATCACTT GGCAGTCTAG CGGACCTCTG CGGTAGGTGC GACAAAACCTG GAGGTATCTT CTGTTGGCCCT

5901 CGATCCAGC CTCCGGCGGC GGGAACGGTG CATGGAAACG CGGATTCCCC GTGCCAAGAG TGACGTTAAGT ACCGCCTATA GAGTCTATAAG GCCCACCCCC
GGCTAGGTG GAGGCCCGG CCCTTGCCAC GTAACCTTG GCCTAAGGG CACGGTTCTC ACTGCATTCA TGGGGATAT CTCAGATATC CGGGTGGGG

6001 TTGGCTCGTT AGAACGGGC TACAATTAAAT ACATAACCTT ATGTATCATA CACATACGAT TTAGGTGACA CTATAGATA ACATCCACTT TGCCCTTCTC
AACCAGGCAA TCTTGGCGCG sp6 promoter ATGTTAATTA TGTATTGGAA TACATAGTAT GTGTATGCTA AATCCACTGT GATATCTTAT TGTTAGGTGAA ACGGAAAGAG

sp6 RNA start
(SEQ ID NO. 25)
cloning linker

Figure 5F